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/For information on the role of the Farmer's Association, especially in regard to agricultural extension work, applied animal science, money lending, as an agent for the provincial government's food bureau, etc., see category 474./

1:Gallin E-4,5 (1957-1958) 1966
AD5 Taiwan Hokkien AD5

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The Land and the Agricultural Process

To understand present-day life in Hsin Hsing, it seems fruitful to look first at the nature of village livelihood and recent changes in it. By examining the nature of the economic change and especially its consequences—for example, the ways in which the villager, in order to improve or at least maintain his livelihood, has become increasingly involved in complex relationships beyond the village limits—we will be better able to understand the changes in other areas of life, such as social organization, village leadership and cooperation, family and kinship, and life history and religion. It will be seen in the following chapters that the changes produced in these other aspects tend to reinforce the processes of change in the economy, and hence in the village generally.

Agriculture and the land-man relationship have always been the basis of the livelihood of Hsin Hsing villagers. The major part of village income, in fact, still comes from sources related to the land. But the land resources, both in quantity and productive capacity (as already briefly noted in Chapter 2 in the section on population and its economic base), have not kept pace with the natural population increase. And yet, from all available evidence, in spite of the imbalance between agricultural income and productivity and natural population growth, the village income and standard of living have risen.

While this is important, our main concerns in Chapters 3 and 4 will be the nature of the economic organization in Hsin Hsing village, the developments which have brought about changes in the area, and how these have enabled the villagers to deal with the imbalance of land productivity to population.

Two major developments have affected Hsin Hsing and many surrounding villages as well: one is the effort, by government and villagers, to improve agricultural methods and the land tenure system so as to increase productivity and support more people; the other is the

1:Gallin E-4,5 (1957-1958) 1966
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apparently ever-increasing tendency of the villagers to turn from their traditional land-based economic pattern to other sources of income. This has mainly taken the form of migration from the village to urban centers. We shall see that these developments have affected both livelihood and standard of living in Hsin Hsing. But we shall also see, especially later, that they have produced changes in social and political patterns as well and that all the developments have, by mutual reinforcement, affected village life by weakening community organization and solidarity, thus broadening the emphasis of village relationships beyond village, area, and kinship group.

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In Chapter 2 we saw that in the nineteenth and early twentieth centuries the local population was relatively small. Dry cultivation was practiced in the area until the present expanded irrigation system was created. Agricultural production per unit of dry land had been low, and required so many man-hours that villagers preferred to supplement their family income with other forms of labor if available. In that period the port city of Lukang was an important outlet for local village labor. Fortunately, soon after the demise of the port, irrigation facilities in the area expanded rapidly, and thus agriculture—mainly wet-rice—successfully absorbed much of the village labor as production increased. Middle-aged villagers report that thirty-five years ago, when they were boys, most of the villagers grew rice in wet fields.

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For more than twenty years in the Hsin Hsing area, farmers have cultivated three crops a year on their irrigated and dry land. The irrigated crops are the more important, since irrigated land comprises 93.3 percent of the cultivable acreage. Depending on the amount of water available for irrigation at the appropriate time, the farmers devote the first two of the annual crops to rice; if the water supply is insufficient, they plant other crops instead. The third is a winter crop, when there is no water for irrigation. The farmers may use all the cultivable land for it.

The first two crops of the year are usually wet-rice which is grown, naturally, on the irrigated land. The growing season for the two rice crops covers the period from early February to early November. Since the villagers' land is scattered throughout the area and irrigation schedules vary from one place to another, there is a resulting difference in rice-planting times for the Hsin Hsing farmers. The yield of the first crop may exceed that of the second by as much as 25 percent, because of the difference in season and available irrigation water between the two growing periods.

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There are two major types of rice grown in Taiwan; their periods of maturation are slightly different. One type is the native *tsai lai* rice, and the other is *p'eng lai* rice, introduced into Taiwan by the Japanese. *P'eng lai* rice generally brings a better market price, but the type grown depends mainly on the type of soil in the field.

1:Gallin E-4,5 (1957-1958) 1966
AD5 Taiwan Hokkien AD5

Such substitute crops, especially various kinds of vegetables, require more attention and labor than rice but have the greater advantage of yielding a larger and quicker cash profit. However, the farmer who grows these crops must use part of the cash he makes to buy rice, which must be used in exchange for fertilizer (obtainable only through government agents), for payment of taxes and/or rent, and for his family's consumption. Perhaps for these reasons, and also because one must be willing to take a chance with a new crop which may sometimes become diseased or fail completely, other farmers prefer to grow rice on their small landholdings and earn the necessary supplementary income by finding employment in Taipei, returning home to work the land during the busy seasons.

Sometimes, however, the decision to switch to another crop is forced upon even the most conservative rice grower. A shortage of irrigation water or a delay in its arrival may make it impossible to grow rice at all. If the last possible calendar date for transferring the rice into the paddy fields passes before the irrigation water arrives, the farmer is forced to substitute a crop which does not depend upon large quantities of water at special times.

To date farmers who have chosen or been forced to grow vegetables have found it both interesting and exciting, perhaps because it is still relatively novel. And although the new crop does require a great deal more work than rice, the vegetable growers seem to find great pleasure in comparing and discussing the progress of their vegetable crops. This apparent trend toward the cultivation of vegetables began about four or five years after the restoration of Chinese rule, at about the same time Hsin Hsing villagers began to go to Taipei in search of supplementary income. The trend was apparently created by the villagers' need for additional income, but at the same time it was made possible by significant changes in the procedure for growing vegetables.

In the early years before and just after the restoration, farmers planted vegetables mainly for their own use. A very few planted some cucumbers, peanuts, and maize as cash crops. Insects, a major problem, deterred many farmers from large-scale cultivation of vegetables for market sale. The vegetables had to be planted and harvested by certain dates for fear of the coming of insects. Because there were no insecticides, the villagers sometimes used ritual practices such as charms, the action of shamans, or village worship to get rid of the insects. Recently, however, the increased availability of insecticides has all but eliminated the insect threat, and most vegetables can now be grown almost anytime. The only limitations are those of temperature and water. Today some vegetables can be found in the market throughout the year, thus offering the population a greater variety of vegetables.

1:Gallin E-4,5 (1957-1958) 1966
AD5 Taiwan Hokkien AD5

In Hsin Hsing village, intensive cultivation of vegetables for market sale began with the onion, the red pepper, and then the green pepper. Often, too many farmers planted the same vegetable, its market price dropped, and most of them then switched to another vegetable that promised a good market. Today many farmers carefully watch the market situation and through the radio, or more usually by word of mouth, observe the fluctuations in the price of various vegetables.

A progressive farmer who hears about a new vegetable crop being grown in the area or reads about a new crop in an agricultural magazine like *Harvest Magazine* may then try to learn how to grow the same vegetable by setting aside a small portion of his land for the experiment. Such was the case with the green pepper. It was first planted in Hsin Hsing for market about 1955. By 1958 there were more than eleven farmers marketing it.

In recent years more and more land surface in Hsin Hsing, as well as in the area generally, has been given over to the cultivation of vegetables. One estimate holds that today the Hsin Hsing land devoted to market vegetables is twice what it was eight or nine years ago and still increasing. In fact, a reliable informant estimates that, exclusive of income from labor outside the area, approximately 10 percent of the village income is now derived from marketing vegetables, 70 percent from rice, 10 percent from the mint plant, 5 percent from farm labor, and 5 percent from miscellaneous sources. Such an increase in vegetable cultivation certainly represents a trend toward crop diversification, with the result that now the area is becoming much less the one-crop area (rice) for which it was formerly known.

In addition to farmers who substitute vegetable growing for partial or total rice cultivation on their land, there are a few farmers who grow mint or sugarcane. While the vegetable farmers are men who were forced by climatic or economic necessity to grow alternate crops, the mint and cane growers are men who, by virtue of sufficient land and money, can afford to gamble on reaping a greater profit from the cultivation of an alternate crop. Such men chose to grow mint or sugarcane because they are long-term crops demanding much less labor, time, and energy than is required for vegetable cultivation.

The man who grows mint instead of rice usually has contacts outside of the village. He must be familiar with the menthol oil market, and especially with the local menthol-distilling factories which can distill his mint crop for sale to the dealers. At the same time, he must have enough time to tend to all the details of arranging for the distillation and sale of the menthol. Two of the few villagers in Hsin Hsing who frequently grow mint are former landlords who have many contacts outside the village through politics and business dealings.

The mint plant, planted only once a year, yields four harvests dur-

1:Gallin E-4,5 (1957-1958) 1966
AD5 Taiwan Hokkien AD5

241 426 [612] [602] the closest relationship. Thus, a villager might have a relationship of frequent mutual borrowing with family members, neighbors, or friends. Sometimes a villager borrows a farm implement from a *ch'in ch'i* (a matrilateral or affinal relative), and in that case no money is paid nor a feeling of obligation incurred. But usually, unless a *ch'in ch'i* lives nearby, it is not likely that a large piece of equipment can be borrowed.

241 426 571 [602] However, the decision to borrow a tool from another depends upon how good the *kan-ch'ing*[2] is between the two people. This is true even for *ch'in tsu* relatives—such as patrilateral parallel cousins—whose *kan-ch'ing* may not necessarily be very good. If the *kan-ch'ing* between two people is not good and one lends the other a tool, then the borrower will feel an obligation toward the lender and worry about it and will later send a gift of something to the lender in order to cancel the obligation. Until this is done, the borrower feels uncomfortable. [427] Therefore, rather than become involved in an uncomfortable situation, a villager often prefers to pay the NT $20 rent for a threshing machine to someone with whom his *kan-ch'ing* is not necessarily good. The payment makes it a simple commercial transaction, and there is no obligation.

241 426 427 Many villagers do not like to borrow an implement which seems to be in bad condition, since if it breaks down the borrower will be expected to repair it. Therefore, to avoid possible trouble, many villagers prefer to rent the implement so that they have no such responsibility.

241 426 571 But no matter whom the villager approaches for the loan of a tool, it is quite unusual to get an outright refusal. If the owner of the implement does not wish to lend it at all, or at least not to that particular person—perhaps because he has a reputation for not returning things promptly—he will offer some excuse. But since the villagers generally know quite well who is likely to be willing to lend them things, they limit their requests accordingly, and embarrassing situations do not often arise.

242 427 Certain implements, such as insecticide sprayers, which few farmers own, can be rented at a nominal charge from the local Farmers' Association. The government and the Farmers' Association are fostering the use of insecticides and thus make sprayers available.

241 422 404 [571] Most really expensive farm implements are owned jointly by several villagers. The families which join together to buy a threshing machine, winnower, stone rice grinder, insecticide sprayer, or water wheel do so for various reasons. Entering into a joint-purchase arrangement, however, is dependent upon the existence of good *kan-ch'ing* between them. Some households which are related, such as brothers or even patrilateral parallel cousins, may have inherited a threshing machine

3:Wolf F-5 (1959-1961) 1968 AD5 Taiwan Hokkien AD5
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presence to any thought that the family might eventually be divided. "But I don't think that will work. He doesn't say anything, so I don't say anything. But if he ever tries to take it by force, I will say plenty. This is left from my grandfather's estate—it is not something my uncle made."

A-bok is deeply in conflict about the future of the family and the decision his mother is urging him to make. From what I know of the family properties and economy, A-bok would certainly not suffer as master of his own half of the estate, and he might be better off. He is not only an industrious farmer, he is also a modern farmer. He is one of the few men in the village who reads the farm bulletins and tries new methods. He speaks with pride of older generations coming to ask his father's and grandfather's advice, but he fails to mention that older farmers now come to him for information on marketing or the new insecticides. In these areas of life he is confident. But, his uncle has always managed the paper work, the taxes, the officials, without bothering to explain his actions to A-bok. A-bok's inexperience makes him uncertain, and his uncle's impatience prevents him from asking for the information that would make the paper work seem less mysterious. He is afraid of his uncle—as are most people. A-bok grew up under an older generation of strong, dominating personalities—his grandfather, his father, and finally his uncle. He has learned what none of these men have had to learn: to bow his head and go on working. But for A-bok the strongest deterrent from making the decision to divide the family is contained in the above interview when he explained why he could not allow the land to go unweeded. "They would say, 'Huh! Look at the Lims now. In former generations they were so good and now they are just the same as us.'" Personal pride weighs very little, but family pride is the burden of generation after generation.

In this family of strong-willed, hot-tempered personalities, A-bok's wife, A-ki, provides the comic relief. She stumbles through the midst of family quarrels, oblivious and humming. If she feels the tension around her, she reacts to it by dropping a bowl on her foot or mistaking sugar for salt. Nothing in her mother-in-law's dark looks seems to be able to silence her aimless chattering. After the explosive quarrel over the cucumbers, she didn't wait an hour before asking her husband to buy her some useless item of clothing. Undaunted by his silence, she prattled on, and when he finally vented his anger by

648 from the other; or if the farmers' association small unit
[631] head is from one faction, the vice head is from the other.
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[191] Many of the men but only a few women learned some
871 Japanese and several became quite fluent. A Japanese
648 school was established in Pouti near the police station and a small percentage of the villagers, primarily male, were permitted to attend. It appears that although there were increases as time passed, total attendance never exceeded fifty per cent of those in the requisite age groups. Secretly and illegally, a Chinese school was operated in the village but seldom did more than 15 students attend regularly.

648 Economically, there were many improvements. The
177 narrow path to Hsin Tien soon became a one lane dirt road.
[491] Coal mines were started in the immediate area and a very
[316] narrow gauge railroad was built from the mines into Hsin
[496] Tien just before World War I. Both road and railroad
[245] improved communication with Hsin Tien. Tea plantations, common in Northern Taiwan, were introduced to Talei about
[245] the time the railroad was built. Citrus orchards started to replace tea during World War II. Improved seed varie-
[242] ties, fertilizer, insecticide, and farming techniques in-
[474] creased agricultural income a great deal. The Japanese introduced farming cooperatives in the nineteen twenties which increased the flow of information to the village.

186 The Taiwanese seemingly equate some Mainlanders
648 with villagers in Fukien, although as previously suggested, the Mainlanders were not representative of rural Fukien. This mistaken identity helps support the villagers' belief that the Taiwanese are now significantly different from the Fukienese still in China. It would seem that the real differences are probably not great. That is, the differences in cultural behavior of the people of Taiwan as compared with those from Fukien was probably no greater than the differences between the latter and the people from Kansu or Hunan. The differences between urban and rural types are probably considerable in any location. However, for predicting behavior, particularly motivated behavior, subjective reality may be more important than objective reality. Taiwanese and Mainlander are self-identified as different groups. Each is an "in group" and treats the other as an "out group." The Taiwanese generally feel that the present government is controlled by "outsiders."

621 Sanlei village as well as the entire li has prospered during the last twenty years subsequent to the re-
[433] turn of control to the Chinese. Agricultural techniques have continued to progress, and production is at its
[474] highest levels in history. The farmers' association has
[242] been most active in introducing improved techniques and providing supplies such as insecticides, new seeds, and fertilizer.

243 the village, the flat land has been largely devoted to
311 irrigated fields for the cultivation of rice. As specified above, the available water from the mountainsides has al-
243 ways permitted irrigation with a minimum of effort. Sanlei
433 is a double-cropping area, most paddy fields having two crops of rice each year with the occasional substitution of sweet potatoes for rice. In the last ten to fifteen years, there has been the inauguration of a third crop of vegetables in the paddy fields for about half of the fields while the other half stands idle.

• 242 There are two major varieties of rice, the native
243 tsai lai and the p'eng lai[1] which was introduced by the
[197] Japanese. P'eng lai has a much higher yield, brings a better market price, and especially important today, is much more responsive in yield increase to applications of fertilizer. However, it is somewhat less resistant to weather, insects, and disease, the latter two especially significant for the second crop. According to local in-
[134] formants, p'eng lai requires rich and deep soil. Since the good soil in Sanlei is about four to six inches deep, insufficient for p'eng lai, experiments with p'eng lai have often proved disastrous and today, only two or three farmers plant it and only in fields closest to the bottom of the valley, next to the river. As a result, tsai lai is the major form grown in Talei Li.

243 hand is in bunches of 4 to 7 rice seedlings, 6 to 7 inches
462 apart with one large bunch placed in a corner of the field for use in a second transplanting to replace thinned-out spots in the field. Men are expected to be able to maintain the rows and spacing without the wooden guides needed by women. A woman occasionally transplants rice in her
[463] own family fields but it is comparatively rare for women
465 to be hired for transplanting. When a woman is hired for transplanting or harvesting, she earns a regular women's wage (discussed later) but does receive the previously
[857] mentioned five-meal bonus. A young boy is a normal part of each transplanting crew with the responsibility of running errands, bringing food and water, and supplying the men with seedlings.

243 There are normally two weedings and occasionally a third; the first is 20-25 days after transplanting and the second and third, 10-15 days after a previous weeding.
242 Chemical fertilizer is applied before weeding. Weeding is
243 performed on hands and knees. Once more, women seldom
[462] participate in rice-field activities outside their own
[474] family fields and that too is infrequent. There may be an occasional second application of fertilizer which is available from the farmers' association for cash or for rice. It is slightly cheaper in town for cash but no credit facilities are available. The fields will be sprayed with insecticide once or twice.

245 433 439 242 according to the government, many of the tea plantations are old and degenerate with only a few containing the newest and best varieties of tea. Since a tea plant may remain productive and commercially valuable for 20 to 30 years, tea farming is unresponsive to rapid changes in the world market and requires a considerable investment to substitute improved varieties. Comparatively, if the market drops in asparagus, the farmer simply does not plant it the next year but when a tea plant is set out, it is expected to yield for at least twenty years. Although the government experimental station in Ping Chen (not far from Sanlei) with the help of the J.C.R.R. is promoting an improved type of Assam tea, the variety is not likely to be adopted in Sanlei because of the current replacement of exhausted tea plants with newly developing fruit cultivation to be discussed in the next section.

245 Tea seeds are sown within ten days of the winter solstice, about the middle of December. In about one year, they are one foot high and may be transplanted to the mountain fields, 9000 plants per chia, during the cold weather in December or January. One year later, harvesting may begin but reasonable levels of production will not be realized until the tree is three or four years old. The tea plant has an average economic life of about 25 years but there is a tendency to extend it too far. There are four kinds of leaves to be harvested in a single year.

245 According to percentage of yield, they are spring leaves
433 (50%), summer leaves (25%), autumn leaves (20%), and winter leaves (5%). The bulk of the harvesting commences in early April and ends in September. The 9000 trees (one chia) will produce about 1200 chin (1600 pounds) of green leaves in a year and these will be reduced to 300 chin of dry leaves.

245 Maintenance of the tea field features heavy cultivation of the soil around each plant in January and light weeding in March, June, August, and November. Sometimes plants are fertilized but this may be omitted for several years. It is felt that most insecticides would spoil the [242] tea so they are rarely applied. The flowers necessary to produce the highest grade tea (Jasmine) are interplanted between the tea bushes.

245 In contrast with rice production which is primarily
462 a man's task with the occasional help of women, tea production is primarily a woman's task with the occasional help of men on the basis of total man hours committed. Men do the heavy cultivation and the planting and transplanting. The first task is male because of the previous standard based on how heavy a task is rated and the latter two because tasks which require high levels of technical skill and knowledge are always male. Work which can be learned with little effort and requires few important decisions is assigned to women. Women do most of the weeding

245 later, all but the main bud are trimmed off. Activities during the balance of the year include monthly applications of fertilizer and insecticide and bimonthly weeding. In November, the beds are prepared with the holes four to six yards apart and the final transplanting is accomplished within ten days of the winter solstice. Aside from extra watering the first few weeks after transplanting to supplement the rain, the routine of care remains the same throughout the life of the tree. The ground is cultivated once per year and both weeded and fertilized twice each year in February and August. Insect control is monthly in the warm weather as needed but rarely less than three times a year.

Trees start bearing fruit the seventh year. The major harvesting months are in November, December, and January, starting when tea harvesting slackens and ending about the time when the paddy fields should be prepared.
245 433 The 7th year the 60 trees which fill one chia of land will produce about 500 chin of oranges and the 8th, 2000 chin. Full mature production commences the ninth or tenth year and dependent on insects, disease, and weather, production
245 will range from 8,000 to 12,000 chin per chia. Diseases
• 242 and insects have only become problems since the increased amounts of land have been devoted to oranges. The farmers' [474] association provides expert advice in dealing with problems as they arise, but officials in the Hsin Tien office

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474 are not sure that they can control all potential problems.

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474 Almost all the oranges not used in home consumption are sold through the Fruit Cooperative Association in Pan Chiao. They may be delivered to a warehouse there or to one in Taipei. All orange growers belong to the cooperative and the li has three representatives on its board of
435 control. The price received is dependent on grade (size) and quality and ranges from $2.50 to $4.00 per chin with an average of $3.00.

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433 As can be seen by the above time sequence, it takes a considerable investment before any return is achieved. Land must be purchased and taxes paid each year for eight years or rent must be paid for the same period without income. At the same time, substantial labor inputs are required for transplanting, weeding, fertilizing, and insect control and cost of insecticide and fertilizer is not inconsequential. Much of the savings from the increased yields for other crops and from non-farm employment is being devoted to orchard development with high returns expected, just around the corner.

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462 Orange orchards are reasonably new and a firm tradition with regard to the division of labor has not yet crystallized as it has for most other village tasks. Transplanting and fertilizing is strictly a male operation as is all skilled farming. Although males and females alike weed and pick oranges, females are beginning to

consulted with extension agents and the farmers' association. Other villagers are watching closely.

The village is close to Taipei and seemingly could share in the truck garden market, but no village in the immediate area other than one village, about two miles distant, participates. The latter was chosen by the farmers' association in Hsin Tien as a model village for vegetable production. After seeds, assistance, and guidance were provided by three technological experts who were assigned nearly full-time, the returns have been very high. The experts have withdrawn except for one who returns periodically for consultation as the innovated system is now self-generating. That is, it appears the village will continue to raise vegetables for the market without further stimulation.

Other villages have observed the techniques of growing and marketing vegetables but there has yet been little diffusion. The techniques are considered complex, the dangers of market fluctuation high, and the experience regarding potential damages by insect and weather nonexistent. There is interest however and the passage of time is likely to result in copying.

As can be seen in the detailed descriptions provided for growing other crops, farm technology is highly complex and villagers regard a skilled farmer as a master of a trade. Although anyone can do some farming tasks,